Culture, Economic Shocks and Conflict: Does trust moderate the effect of price shocks on conflict?

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April 1, 2021

Abstract

This paper documents an important channel through which culture may affect conflict. We examine a panel of developing countries over fifty years and use price shocks to extractive commodities as an exogenous variation in the country's economic outlook. We find that these price shocks are less likely to result in the onset of civil war and conflict in countries that have higher levels of trust. However, we also find that trust does not moderate price shocks' effect on the cessation of conflict. Our study provides new empirical evidence on the interdependence of economic shocks and culture on conflict.

Keywords: Trust; Economic shocks; Civil war; Conflict

JEL Classification: D74, E02, P16, Z10

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1 Introduction

Internal conflict is one of the most common forms of large-scale violence across the world. Civil conflicts and civil wars have plagued much of the world over the past half-century.[1] Fearon and Laitin (2003) estimate that over 16 million people have lost their lives to such catastrophes over this period. A significant locus for internal conflict has been the developing nations, of which more than one-third have been affected (Lacina and Gleditsch, 2005). It is important to understand factors that may prevent the onset of internal conflict because the consequences of conflict are dire and often irreversible. Internal conflicts are not only destructive to life itself but also the social fabric of society and future economic development. Once internal conflicts begin, they often last for many years, with one out of five of the world's nations experiencing a civil war lasting more than ten years since 1960 (Blattman and Miguel, 2010).

Economic shocks often increase the probability of internal conflict. An extensive body of literature argues that economic shocks to extractive resources lead to an increase in the risk of internal conflict (Bazzi and Blattman, 2014). However, there is considerable variation in how countries react to economic shocks. Consider the example of Jordan and Kenya in 1982. Both countries received a price shock in extractive commodities of a similar magnitude in that year. While Kenya descended into civil conflict, Jordan was unscathed from the price shock. While there can be several reasons for this difference, one difference between Jordan and Kenya is the extent of mutual (generalized) trust between society members. Relative to Kenya, Jordan has a much higher level of generalized trust. If economic shocks pose a threat to internal concordance, do countries with different levels of trust respond differently? Do differences in trust explain why some countries which rely on commodity exports prosper in peace while others spiral into persistent and catastrophic conflicts?

There are at least three channels through which trust can affect the probability of conflict. Higher levels of trust are likely associated with higher altruism on the part of agents that benefit from shocks, who share their benefits with less fortunate fellow citizens. This reasoning is consistent with previous work that finds a positive correlation between altruism and charitable donations and the voluntary provision of public goods (Andreoni and Miller, 2002; Basu, 2006). Second, benefits may become distributed more widely due to increased trade activity between poorer and richer agents. Guiso et al. (2009); Rohner et al. (2013b), among others, have found a positive correlation between trust and trading activity, which increases the opportunity cost of conflict. Finally, conflict may be mitigated as a result of a redistribution of income and resources through

[1] Civil conflicts (Civil wars) are internal conflicts with at least 25 (1000) battle deaths in a year (Blattman and Miguel, 2010).

the state, as suggested by empirical evidence that finds a strong positive correlation between trust, income redistribution, and income equality (Knack and Keefer, 1997; Bjørnskov and Svendsen, 2013; Bergh and Bjørnskov, 2014).

In this paper, we propose that cultural traits, specifically generalized trust, interact with economic shocks in determining the incidence of internal conflict. To guide our empirical framework, we first propose a simple model to demonstrate how price shocks and trust interact to determine conflict incidence, drawing from the frameworks developed in Besley and Persson (2010); Grossman (1995); Ray (2019). In our model, there are two groups in a country: one benefits from a positive price shock, while the other is unaffected. By incurring a cost, the latter agent can engage in conflict to fight the former in an attempt to obtain a share of their windfall. However, the incentive to engage in conflict depends also on the level of trust between the agents. Trust is positively associated with the expectation that the enriched agent will share their windfall voluntarily. Thus higher levels of trust increase the probability of sharing and hence decrease the likelihood of conflict. The main testable prediction of the model is that, following a rise in the price of extractive commodities, the risk of conflict is heightened in countries with lower levels of trust relative to those with higher trust levels.

We then test our predictions using panel data from developing countries around the world over fifty years. We use World Value and Barometer Surveys to create a time-invariant measure of generalized trust for each country.[2] One crucial problem with estimating the joint impact of trust and economic outcomes on conflict is the potential endogeneity of economic outcomes. Trust may influence economic development (Algan and Cahuc, 2010; Tabellini, 2010), whilst previous episodes of conflict may impact current economic outcomes (Collier and Hoeffler, 1998; Besley and Persson, 2010). To overcome the potential endogeneity issue, we focus on price shocks to national commodity exports induced by exogenous variation in global commodity prices. This exogenous variation in prices helps to mitigate endogeneity concerns between economic outcomes and trust and conflict because the economic shocks are determined by exogenous changes in global commodity prices that are beyond a country's control.[3] Following Bazzi and Blattman (2014), we focus on disaggregated price shocks by calculating a weighted average between global commodity prices and national export shares for seventeen extractive commodities. The measure of the incidence of internal conflict is derived from Gleditsch (2002);

[2]Generalized trust is a cultural trait that changes slowly. Therefore, empirical studies aggregate individual responses for each country to create a time-invariant measure of generalized trust. For instance, see Guiso et al. (2004); Bergh and Bjørnskov (2014); Nunn et al. (2018).

[3]One concern could arise if instead of being a price taker in a commodity, the country is a price maker. An example of this would be Chile that exports 25% or more of the global production of copper. To overcome this problem, in our baseline estimation, we do not categorize a country as having a price shock if it produces more than 10% of the global production of the commodity. We demonstrate that our results are robust to using different cut-offs to categorize price makers.

Pettersson (2019). We use a Difference-in-Differences strategy with regional and year fixed effects to estimate the mediating impact of generalized trust. We also control for a rich set of cultural, political, institutional, historical, and geographic variables that are potentially correlated with a country's level of trust, price shocks, and conflict. Our strategy relies on comparing countries with high trust levels that receive a price shock to countries with low levels of trust that receive a price shock.

The main finding is that generalized trust mitigates the effect of price shocks on the onset of internal conflict. After a rise in the prices of extractive commodities, countries with higher levels of generalized trust have a lower probability of onset of internal conflict than countries with lower levels of generalized trust. A one standard deviation increase in the extractive commodity price shock leads to a 30% difference in the probability of onset of civil conflict between two countries with generalized trust levels one standard deviation apart. For the onset of civil war, the difference is 73%. On the contrary, we find that generalized trust has no significant mediating effect of price shocks on the ending of an internal conflict.

Our main results are robust to a large number of robustness checks. We demonstrate that our results are similar if we use Logit to estimate the main results. Our results are robust to using different ways of measuring price shocks, trust, and incidence of conflict. Moreover, our results are also robust to including country fixed effects, dropping outliers, and including different sets of cultural, political, and institutional controls.

This paper is related to the literature that examines the economic determinants of conflict. Several studies such as Fearon and Laitin (2003); Miguel et al. (2004); Ciccone (2008) show that economic opportunities and conditions are the primary drivers of civil war onset. More closely related to our work is research that measures economic shocks using commodity price shocks and studies their impact on internal conflict. The evidence on whether price shocks increase or decrease the risk of conflict is mixed. Several authors find a positive relationship between price shocks and civil war incidence (Collier and Hoeffler, 2005; Besley and Persson, 2008; Koubi et al., 2014; Lei and Michaels, 2014; Bellemare, 2015; Ross, 2015). In contrast, others find a negative relation between price shocks and civil war incidence (Brückner and Ciccone, 2010; Berman and Couttenier, 2015).[4] Our paper contributes to this literature by reconciling these two contradictory findings by proposing and empirically demonstrating that generalized trust is an important mediating

[4]Theoretically, the positive relationship is posited as the "state as a prize" effect, whereby increasing export prices (price shocks) increase income to the government relative to other sectors within the economy. This makes the state more attractive to capture for rebels due to the higher value of expected gains from fighting over resources, thus increasing the risk of conflict (Besley and Persson, 2010; Grossman, 1995). On the other hand, the negative relationship is postulated as the "opportunity cost" effect whereby a fall in commodity export prices decreases incomes, thus decreasing the opportunity cost of joining a rebel group to fight the government and other groups over resources (Grossman, 1991; Dube and Vargas, 2013; Collier and Hoeffler, 1998).

factor determining how economic shocks impact conflict incidence differently.

Another strand of the literature shows that the relationship between price shocks and conflict is sensitive to the type of commodity. For instance, Bazzi and Blattman (2014) find that rising prices in agricultural (extractive) commodities lead to no change in conflict onset, but they lead to a decrease (increase) in the duration of an ongoing conflict. On the other hand, Dube and Vargas (2013) find that rising prices in agricultural (extractive) commodities lead to a decrease (increase) in the incidence of conflict.

Our paper relates to the literature that studies the relationship between trust and conflict and economic development. Rohner et al. (2013b) theorizes that a breakdown of inter-ethnic trust contributes to the persistence of civil war. Similarly, Acemoglu and Wolitzky (2014) propose a model exploring cycles of distrust and inter-group conflict. Experimental research finds evidence consistent with a negative relationship between trust and conflict (Fehr et al., 2008; Mannemar Sønderskov, 2011). Other studies have shown that conflict impacts trust. While Voors et al. (2012) find that conflict leads to an increase in altruistic behavior, Rohner et al. (2013a); Becchetti et al. (2014); Besley and Reynal-Querol (2014) find individuals exposed to conflicts display lower levels of trust. Several studies have shown that trust is an essential component in fostering economic development. For instance, Algan and Cahuc (2010); Tabellini (2010) find a positive causal effect of trust on economic development. Trust affects economic development through fiscally stable institutions (Knack and Keefer, 1997), political accountability (Nannicini et al., 2013) and financial development (Guiso et al., 2004). Our paper contributes to this literature by showing that trust may moderate economic shocks' impact on conflict.

2 Conceptual Framework

Consider a country with an export sector A and a non-traded sector B. Assume that the population is immobile between sectors and that the total income within each sector is distributed equally between all agents in the sector. A commodity price-shock affects sector A's income but does not affect incomes in sector B. We will disregard intra-sectoral dynamics and collective action problems and treat each sector's population as a single decision-making agent.

A positive shock in commodity prices increases incomes in sector A. The impact of this on overall inequality depends on whether, before the shock, incomes in A were higher or lower than those in B. In turn, this is likely to be determined by the nature of the export good. If sector A exports agricultural goods and A-agents are peasants and farmers, then it is likely that A is the poorer sector, and a positive shock to agricultural prices reduces inequality. On the other hand, if A exports extractive commodities like oil or mined

diamonds, then A is more likely the richer sector, and a positive commodity price shock increases inequality.[5]

In this framework, conflict may potentially occur because the poorer agent finds it tempting to wrest away some of the income that accrues to the richer agent. In the case of conflict, the aggressor devotes some resources to the attack, and the defender correspondingly devotes some resources to defense. These deployments determine the probability that the aggressor will be successful or unsuccessful and his gain or loss in each contingency. It is, of course, also possible that the richer agent may initiate conflict. However, in concordance with the "state as a prize" effect in the literature (Besley and Persson, 2010; Grossman, 1995) , we restrict our focus to the opposite case.

When inequality has the potential to cause conflict, windfall gains (for richer agents) or losses (for poorer ones) exaggerate the possibility of conflict. Correspondingly, most societies have conventions and mechanisms to redistribute these gains and losses. We mentioned some possible mechanisms, specifically altruism, trade, and income redistribution, in the introduction. When these conventions and mechanisms function well, and the beneficiaries trust the benefactors to hold up their end of the obligations, the possibility of conflict is mitigated. Conversely, when obligations are shunned, and there is a lack of trust, the poorer agents may pre-empt the process by initiating conflict.

For simplicity, assume that each sector acts as a single agent, who is also named A and B. Let Y_A and Y_B be the agents' baseline incomes when there is no commodity price shock. In the exposition below, we assume that the export sector A has higher incomes than the non-traded sector B, thus $Y_A > Y_B$. Let Δ be a positive shock to A's income when such a shock occurs. The alternative cases can be analyzed similarly.

If B initiates conflict, he will devote some resources R_B to conflict, and A will devote resources R_A to protect his income from this attack.[6] Let $R \equiv (R_A, R_B)$. B wins the conflict with probability $f(R)$ and loses with the complementary probability. If he wins, he acquires a fraction θ of A's income, and if he loses, he gains nothing and pays the penalty L. Conversely, if A wins, he keeps all of his income, and if he loses, he gives up

[5] In reality, the question is more complicated since incomes are not equally distributed. Mineworkers may earn a pittance with large profits going to mine owners, multinational firms, and corrupt politicians, and there is usually a large dispersion between incomes of peasants and large landowners. Even in such cases, it is possible to use the following framework to isolate the effect of a shock on overall inequality and subsequent conflict, but we have to carefully distinguish between groups that will ultimately lie on different sides of the conflict divide.

[6] These conflict resources are typically decision variables for the two agents and determine the outcome of the conflict. There is a large literature that analyses equilibrium in such conflict models (e.g., Hirshleifer, 1995; Grossman and Kim, 1995). We will simplify our analysis considerably by assuming that these resource deployments are fixed.

θY_A. B's payoff contingent on conflict is therefore given by:

$$Y_B^{Conf} = Y_B + [f(R)(\theta Y_A) - (1 - f(R))L - R_B)] \tag{1}$$

Clearly, B will initiate conflict if and only if the term in square brackets on the right-hand-side is positive. Let this term be Z. We assume the initial conditions are such that in the absence of economic shocks, there is no conflict, i.e.,

$$Z \equiv [f(R)(\theta Y_A + L) - (L + R_B)] \leq 0$$

so conflict is not initiated in normal years.

A positive shock changes the income of A by $\Delta > 0$, to $Y_A + \Delta$. Now if B initiates conflict, then his expected payoff is

$$\hat{Y}_B^C = Y_B + Z + f(R)\theta\Delta$$

According to the rules of society, it is expected that a fraction γ of the windfall will be transferred to B, which yields a post-transfer income for B of:

$$Y_B^T = Y_B + \gamma\Delta \tag{2}$$

If a conflict occurs, then A is no longer under obligation to make the conventional transfer $\gamma\Delta$ to B.

The social convention that determines γ is sufficient to ensure peace in the society if

$$Y_B^T \geq \hat{Y}_B^C \iff \gamma \geq f(R)\theta + \frac{Z}{\Delta}, \tag{3}$$

in other words, if the conventions ensure that B receives at least as much income as he would expect to enjoy if he had initiated the conflict. Since we assumed $Z \leq 0$, it follows that the economy can peacefully accommodate a shock of any size if $\gamma \geq f(R)\theta$ (since the transfer is at least as large as the victory spoils), but if $\gamma < f(R)\theta$ then sufficiently large shocks will give rise to conflict.

Even when the conventions in society are adequate, it is possible that they may not be fully observed. In particular, A may evade taxes on windfalls and shirk social obligations, and correspondingly B may not have complete trust that A will share his windfall to the full extent γ. Trust is important for many of the potential channels through which sharing occurs. Trust is correlated with higher income equality and may facilitate an equalizing redistribution of resources across society (Knack and Keefer, 1997; Bergh and Bjørnskov, 2014; Bjørnskov and Svendsen, 2013). Altruistic behavior is likely to be higher

in countries with higher levels of trust (Basu, 2006; Andreoni and Miller, 2002). Trade that promotes redistribution through market activity is also positively correlated with trust (Guiso et al., 2009; Rohner et al., 2013b).

Let B's trust in A's intentions be represented by a fraction $\tau \in [0, 1]$, where τ is B's assessment of the probability that A will share his additional gains from the windfall. Alternatively, τ is the fraction of the socially expected amount that B expects A to actually transfer. Hence in the absence of conflict, B's expected income is

$$Y_B^{NT} = Y_B + \tau\gamma\Delta. \tag{4}$$

The condition for peace now requires that τ is sufficiently large as well, specifically,

$$\tau \geq \tau^* = \frac{f(R)\theta}{\gamma} + \frac{Z}{\gamma}.\frac{1}{\Delta} \tag{5}$$

Thus, other things being equal, countries with sufficient trust between economic groups will avoid conflict in the aftermath of economic shocks. On the other hand, if there is insufficient conformity to social exchange rules and a corresponding lack of trust, economic shocks can lead to the initiation of conflict. This is consistent with the conclusions proposed by Acemoglu and Wolitzky (2014) and Rohner et al. (2013b).

The above formulation is implicitly based on the presumption that the society accepts some base level of inequality as acceptable or inevitable, but aversion to greater disparity translates into redistributive conventions that restrict increases in inequality. When there is low reliance that richer groups will adhere to such conventions, the less fortunate population segments are more likely to initiate conflict to appropriate some of the excess wealth that proceeds from favorable economic shocks. This argument works equally well in reverse for the case where the export sector is the poorer one, and disparity increases due to a negative shock to the price of that sector's output.

These arguments may apply equally to the ending of conflict. Here the active agent would decide on whether to continue an ongoing conflict. A positive (or enduring) price shock may prolong an ongoing conflict. On the other hand, negotiations to end a conflict are likely to have a greater chance of success when the pre-existing trust level is higher. In this case, the richer agent may also more credibly make offers of new benefit-sharing arrangements and be trusted to hold up his end of the deal were the poorer agent to call an end to aggression.

3 Data and Empirical Framework

3.1 Data

In this section, we outline the main data employed in the empirical analysis.

Conflict: We assemble the conflict data from the UCDP/PRIO Armed Conflict Dataset (Gleditsch, 2002; Pettersson, 2019). UCDP/PRIO is a transparent and accurate data source reflecting the episodic and oscillating nature of conflict intensity. We create variables that measure the onset of civil conflict and civil war and end of civil conflict and civil war. We focus on the onset and ending of internal conflict rather than conflict incidence because the latter is more susceptible to endogeneity concerns since conflict is usually persistent, and thus both current and lagged price shocks affect its incidence.

We define civil conflict (war) onset as an indicator variable equal to one if a new civil conflict episode (war) took place in a given year. Years during which a civil conflict (war) is ongoing following an earlier onset are defined as missing values. On the other hand, years with no civil conflict (war) are equal to zero. This coding is consistent with the current literature and avoids conflating years of ongoing conflict (war) with years of no conflict (war) (Collier and Hoeffler, 1998; Collier et al., 2009; Bazzi and Blattman, 2014). Civil conflict (war) ending is defined analogously. We augment the missing dates for ongoing conflicts and endings in the UCDP/PRIO dataset with the codings of Bazzi and Blattman (2014).

Commodity Price Shocks: We collect data for global commodity prices and a country's commodity export shares from Bazzi and Blattman (2014). They assemble the commodity trade data (trade values by country, year, and commodity) from the United Nations Commodity Trade Statistics Database (United Nations Statistics Division, 2010). Commodity price data is primarily sourced from the International Monetary Fund (2010) International Financial Statistics.[7] Altogether, the dataset contains information on the commodity price shocks for 83 developing countries across Africa, the Middle East, Latin America, and Asia from 1957 to 2007.

The extractive commodity price index for country i in year t is calculated by taking the natural logarithm of the geometric weighted average and deflated by the US consumer

[7] See the online appendix to Bazzi and Blattman (2014) for details.

price index in 2000:[8]

$$P_{it} = \frac{ln\left[\left(\prod_j^n p_{jt}^{w_{ij,t-k}}\right)^{\frac{1}{\sum_j^n w_{ij,t-k}}}\right]}{CPI_{US,2000}}$$

j indicates the jth commodity out of n number of total extractive commodities (17). The global price of commodity j in year t (p_{jt}) is the same for each country. Weights ($w_{ij,t-k}$) are the national export shares for country i and commodity j from the year $t-k$ where k represents the number of lagged years from year t. Our preferred specification uses a one year lag for weights, meaning $k = 1$.[9] Price shock is then defined as change in the price index scaled by the commodity's share in the GDP:

$$PS_{it} = (P_{it} - P_{it-1}) \times \frac{X_{iT}}{GDP_{iT}}$$

Scaling of price indices accounts for the fact that countries with a larger national export share of extractive commodities relative to national GDP are more sensitive to extractive commodity price shocks.

Our price index measure exploits exogenous variation in global commodity prices. However, concern over exogeneity may arise if countries are not price takers in the global market for these commodities. For instance, if countries produce a large share of a particular commodity's world output, they are potentially price-makers for that commodity as supply shocks to that country's commodity may significantly influence world prices. If world prices change in anticipation of conflict, this would cause a spurious correlation between conflict and lagged price shocks. To address this concern, we follow the approach taken by Bazzi and Blattman (2014) and drop price shocks to commodities for a country if they produce more than 10% of that commodity in the global market. We also consider 20% and 5% thresholds as robustness checks. In addition, we may be concerned that national export shares used as weights in the commodity price shock measure are correlated with the incidence of internal conflict. We use one-year lagged export shares to construct the weighted geometric commodity price index to address this concern.[10]

[8]Following **?**Bazzi and Blattman (2014); Calì (2014), we use geometric weighted average instead of simple weighted average. Our main results are robust to using a simple instead of geometric weighted average.

[9]The seventeen extractive commodities are: aluminium, asbestos, coal, copper, diamond, gold, iron, lead, manganese, natural gas, nickel, oil, phosphate, silver, tin, uranium, and zinc.

[10]In unreported estimation, we directly test whether commodity price shocks affect national income. The results show a strong positive relationship between price shocks to extractive commodities and proxies for income shocks such as GDP per capita growth and GDP growth. When isolating the effect of price shocks on incomes for different sectors of the economy, we find a weak positive relationship between price shocks and income shocks to the government (taxation revenues as a percentage of GDP). In addition, we find a positive (negative) relationship between price shocks and income of capital-intensive sectors (income of labor-intensive sectors).

Trust: We use data from the World Values Surveys (Waves 1-6), Latinobarometer Surveys (1996-2013), Asiabarometer Surveys (Waves 1-4), and the Afrobarometer Surveys (rounds 1, 3, and 5) to construct an average trust measure for each country. These are nationally representative surveys conducted at an individual level with at least 700-900 citizens from each country, while most countries have over 1000 respondents. We follow the literature and aggregate individual responses from the different surveys at the country level (Knack and Keefer, 1997; Bergh and Bjørnskov, 2014; Rohner et al., 2013a; Nunn et al., 2018). In each survey, we compute the fraction of respondents that answered the standard generalized trust question in the affirmative (i.e. "most people can be trusted"). We then take the weighted average value for each country's aggregated measure across all surveys to make a time-invariant measure. The generalized trust measure takes a value between 0 and 1, where values closer to 1 indicate higher levels of generalized trust.

We create a time-invariant measure of trust because (i) trust is a slow-moving cultural trait that does not vary significantly across years; (ii) a time-invariant trust measure helps mitigate concerns of reverse causality between conflict and trust. We validate the time-invariant measure of trust in two ways. First, when creating the measure, we do not include generalized trust measures for countries with a standard deviation greater than 0.1 across available surveys. This includes eight of the 83 countries in the sample, leaving 75 countries with a time-invariant generalized trust measure. Second, running regressions with generalized trust as the dependent variable, without year fixed effects, increases adjusted R^2 by less than 0.1. These results indicate that each country's average generalized trust measure does not vary much over time and hence is slow-moving.

Other variables: We collect our variables related to the economy variables from The World Bank (2020), geography, institutional legacy, and religious and ethnic composition from Fearon and Laitin (2003), and politics and institutions from Marshall and Gurr (2020). A full description of data and sources for other variables is outlined in Appendix A2.

Table 1: Descriptive Statistics

	Obs.	Mean	Median	SD	Min.	Max.
	(1)	(2)	(3)	(4)	(5)	(6)
Civil Conflict Onset	3147	.0404	0	.1968	0	1
Civil Conflict Ending	732	.1544	0	.3616	0	1
Civil Conflict Incidence	3961	.1888	0	.3914	0	1
Civil War Onset	3340	.0204	0	.1412	0	1
Civil War Ending	539	.1039	0	.3054	0	1
Civil War Incidence	3961	.1394	0	.3464	0	1
Price Shock	3497	0	-.0399	1	-21.5347	22.6292
Gen. Trust	75	.2175	.1961	.1157	.0351	.5507
Prior Conflict	3962	.4891	0	.4999	0	1
Prior War	3962	.2923	0	.4549	0	1
Democracy (lag)	3611	2.9898	1	3.5696	0	10
Ethnic Fract.	3888	.5115	.5418	.2610	.0040	.9526
Ethnic Fract.^{2}	3888	.3297	.2935	.2594	0	.9074
Ethnic Polar.	3592	.5548	.5980	.2376	.0170	.9820
FBC	3888	.3328	0	.4713	0	1
FFC	3888	.2070	0	.4052	0	1
Log population (lag)	3667	16.1740	16.0367	1.5167	11.5217	20.9941
Mountainous Terrain	3923	20.5797	12.9000	21.9412	0	82.2000
Non-contiguous State	3923	.1218	0	.3271	0	1

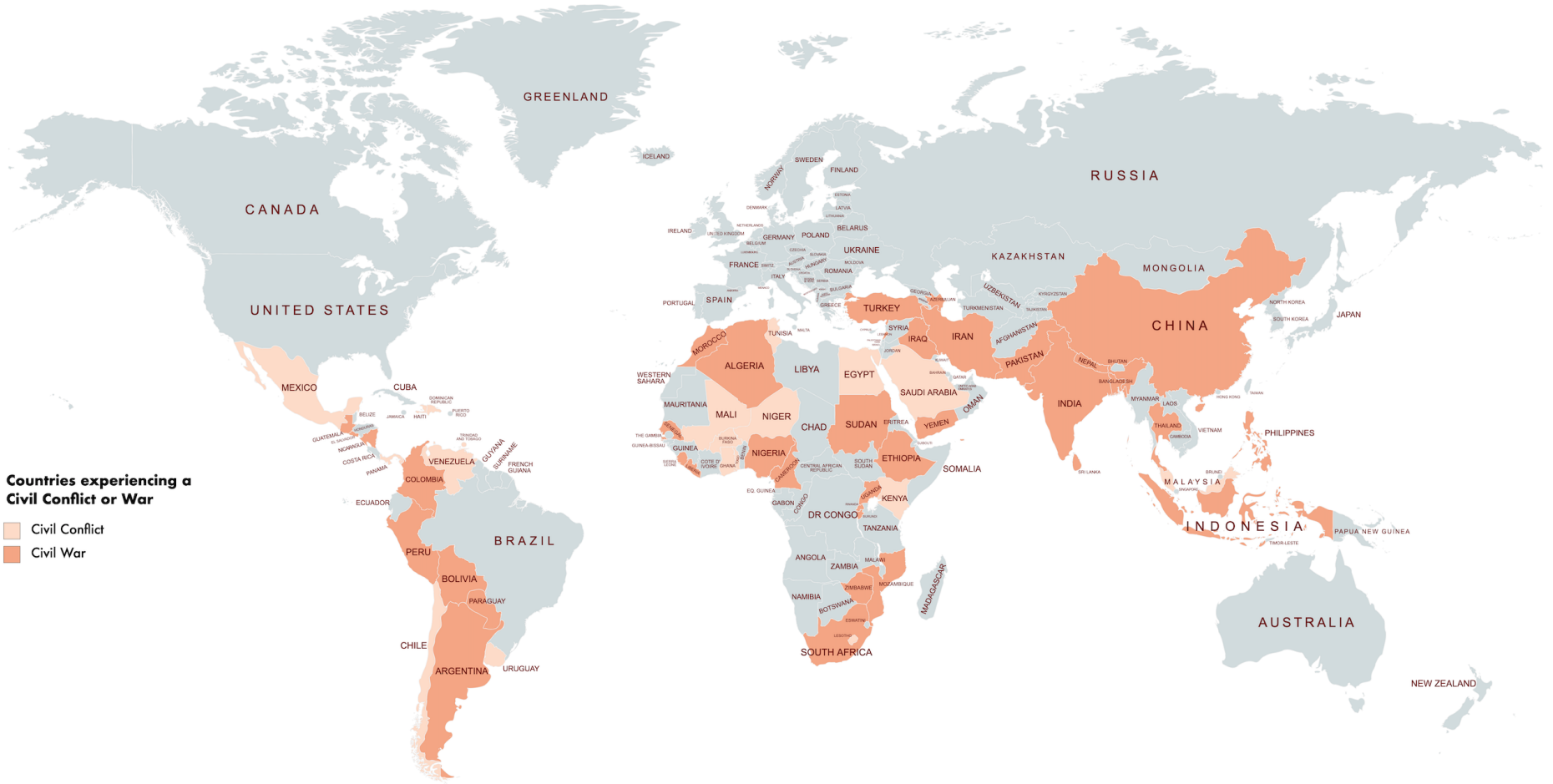

Figure 1: Developing Countries in sample experiencing a Civil Conflict or War, 1957-2007

3.2 Empirical Framework

This paper seeks to examine the interaction effect between a country's level of trust and price shocks on internal conflict. The following equation captures our specification:

$$\text{Conflict}_{it} = \beta_1 Trust_i + \beta_2 PS_{it} + \beta_3 (Trust_i \times PS_{it}) + \beta X_{i,t-1} + \alpha_t + \alpha_r + \epsilon_{it}, \quad (6)$$

where i indexes countries, t years and r regions. Conflict_{it} represents the two measures of internal conflict: onset and ending.

The specification includes the country-specific time-invariant trust measure ($Trust_i$), along with the annual price shock measure (PS_{it}) and interaction term ($Trust_i \times PS_{it}$). The main coefficient of interest is β_3, which estimates the mediating effect of generalized trust on the impact of price shocks on internal conflict onset or ending. When conflict onset is the dependent variable, for example, a negative (positive) sign of β_3 suggests that after an increase in extractive commodity prices, countries with higher levels of generalized trust have a lower (higher) probability of internal conflict onset compared to countries with lower levels of generalized trust.

In our estimations, we include year and regional fixed effects.[11] Year fixed effects control for global trends that affect internal conflict in all countries similarly, eliminating potential bias from the movement of both global conflict and global shocks. Regional fixed effects control for local characteristics that may increase the risk of conflict for countries within the same region and regions that may be less diversified and more resource dependent. We also include a set of time-varying covariates (lagged for one year to mitigate endogeneity concerns) and time-invariant country-specific covariates, represented by the vector $\beta X_{i,t-1}$. Including additional covariates helps, first, to limit the omitted variable bias between trust, price shocks (national export structure), and conflict, and, secondly, improves the precision of our estimation by reducing the standard errors. Therefore, we include variables representing a country's cultural, political, institutional, historical, and geographic background.

A detailed description of the variables added to our model is explored later in Section 4.1. For all specifications, we cluster the standard errors at the country level. In Section 4.2, we discuss and address concerns with the potential endogeneity of trust and price shock variables.

[11] We follow Fearon and Laitin (2003) when assigning a country to each region. The regions are Sub-Saharan Africa, North Africa, Latin America, the Caribbean, Middle East, and Asia.

4 Results

4.1 Baseline Estimates

To estimate the effect of price shocks and generalized trust on the four different internal conflict measures (Civil Conflict Onset, Civil War Onset, Civil Conflict Ending, Civil War Ending), we run three different linear regressions. Each one is a progression of the previous, adding further controls to the model. In each table, Column (1) shows the unconditional relationship without any controls. In Column (2), we add variables that account for the country's political institutions (a proxy for democracy), culture (ethnic fractionalization and polarization), historical background (former French or British colony indicator), and geographic determinants (mountainous terrain, non-contiguous country indicator, and population). The inclusion of these pre-determined controls helps to reduce omitted variable bias. In addition, we also include a control indicating whether the country has had a previous civil conflict or war since 1957, since a new conflict may be affected by past conflict (Esteban et al., 2012). In Column (3), we further include GDP per capita and GDP growth as controls. Although these variables are significant correlations of conflict according to the literature, they are included separately since they may serve as bad controls when estimating price shocks' effect on conflict. Including them as controls imply that the model estimates price shocks' effect on conflict apart from GDP per capita and GDP growth, which may bias the price shock estimates downwards. Therefore, our preferred specification is the one in Column (2).

4.1.1 Internal Conflict Onset

Table 2 shows results of estimation of Equation 6. In Columns (1) to (3), the dependent variable is civil conflict onset. In Column (1), we see that generalized trust, price shocks, and their interaction (statistically insignificant at 10% significance level) do not affect civil conflict onset. However, these estimates are likely to suffer from omitted variable bias due to excluding important covariates. In Column (2), we see that the price shocks positively correlate with the civil conflict onset. A one standard deviation increase in price shock leads to a 1.55 percentage points increase in civil conflict onset. We see further that there is no relationship between generalized trust and civil conflict onset for countries with no price shock.

Our main coefficient of interest is the interaction effect between generalized trust and price shocks. The estimated coefficient (-0.0910), statistically significant at a 1% significance level, suggests that after a one standard deviation increase in extractive commodity prices, the difference in the probability of civil conflict onset between two countries that have generalized trust levels one standard deviation apart (0.1157) is 1.05 percentage

Table 2: Internal Conflict Onset

	Dependent variable:					
	Civil Conflict Onset			Civil War Onset		
	(1)	(2)	(3)	(1)	(2)	(3)
$Gen.Trust_i$	0.0220	-0.0332	-0.0256	-0.0215	-0.0270	-0.0239
	(0.0455)	(0.0708)	(0.0632)	(0.0282)	(0.0382)	(0.0369)
PS_{it}	0.0080	0.0155**	0.0136**	0.0155**	0.0174**	0.0153***
	(0.0098)	(0.0071)	(0.0052)	(0.0066)	(0.0080)	(0.0045)
$Gen.Trust_i \times PS_{it}$	-0.0565	-0.0910***	-0.1103***	-0.0834**	-0.0939**	-0.1135***
	(0.0460)	(0.0309)	(0.0135)	(0.0323)	(0.0368)	(0.0140)
Additional Controls (1)	No	Yes	Yes	No	Yes	Yes
Additional Controls (2)	No	No	Yes	No	No	Yes
Observations	2649	2175	1957	2797	2301	2072
Mean of dep. variable	0.0344	0.0354	0.0353	0.0157	0.0148	0.0140
R^2	0.0249	0.1006	0.1012	0.0250	0.1085	0.1049

Notes: All regressions use an LPM and include year fixed effects and regional fixed effects. PS_{it} is standardized for interpretation. Robust standard errors in parentheses, clustered by country. Additional Controls (1): prior onset of conflict or war, democracy, ethnic fractionalization and polarization, Former French Colony and Former British Colony, population size, mountainous terrain, and non-contiguous state. Additional Controls (2): GDP per capita and GDP growth. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

points or 29.74%.[12] For a concrete example, consider the different effects of a price shock between the North African countries in the sample with the highest and lowest trust measures: Egypt (0.2462) and Libya (0.1160). The estimated coefficient of the interaction term suggests a sizable effect, whereupon for a one standard deviation increase in extractive commodity prices, Egypt is 1.20 percentage points or 33.47% less likely to experience a civil conflict onset relative to Libya.[13] The estimates in Column (3) are similar to the ones in Column (2).

In Columns (4) to (6), the dependent variable is civil war onset. We see that the price shocks have a positive relationship with the civil war onset. A one standard deviation increase in price shock leads to a 1.74 percentage points increase in civil war onset. For countries with no price shock, there is no relationship between generalized trust and civil conflict onset. The estimated coefficient on the interaction term (-0.0939), statistically significant at a 1% significance level. This implies that after a one standard deviation increase in extractive commodity prices, the difference in the probability of civil war onset between two countries that have generalized trust levels one standard deviation apart (0.1157) is 1.09 percentage points or 73.41%.[14] Going back to our example of Egypt and Libya, our estimates suggest a 1.09 percentage points or 73.41% increase in the probability of having a civil war in Libya compared to Egypt after a one standard deviation increase in extractive commodity prices.

4.1.2 Internal Conflict Ending

Table 3 displays results testing whether trust moderates the effect of price shocks on the ending of internal conflict. In Columns (1) to (3) and (4) to (6), the dependent variables are civil conflict ending and civil war ending, respectively. We see that neither price shocks nor the interaction between price shocks and generalized trust have a significant impact on the ending of either civil conflict or civil war. However, it is interesting to note that trust by itself has a large and significant effect on civil war ending. It is possible that, when there is a large pre-existing quantum of trust within the population, it is more feasible to negotiate a peace even after hostilities have broken out between different factions, which may not be the case in countries with less pre-existing trust.

[12] -0.0105 = -0.0919 × 0.1157 = estimated coefficient × one standard deviation generalized trust. $0.2974 = \frac{0.0105}{0.0354} = \frac{\text{Percentage point effect}}{\text{Mean of dependent variable}}$.

[13] $-0.0120 = -0.0919 \times (0.2462 - 0.1160)$ = estimated coefficient × difference in generalized trust. $0.3347 = \frac{0.0120}{0.0354} = \frac{\text{Percentage point effect}}{\text{Mean of dependent variable}}$.

[14] Notice that the coefficient is large in percentage term due to the low probability of civil war onset in a given year.

Table 3: Internal Conflict Ending

	Dependent variable:					
	Civil Conflict Ending			Civil War Ending		
	(1)	(2)	(3)	(1)	(2)	(3)
$Gen.Trust_i$	0.0457	0.0088	0.2368	-0.0325	0.3778**	0.3624*
	(0.2233)	(0.2891)	(0.3275)	(0.2003)	(0.1423)	(0.1856)
PS_{it}	-0.0432	-0.0852	-0.0800	0.0924	0.0207	0.0344
	(0.0986)	(0.0727)	(0.0720)	(0.1074)	(0.0713)	(0.0737)
$Gen.Trust_i \times PS_{it}$	0.1114	0.2124	0.2071	-0.2297	-0.0525	-0.0946
	(0.2423)	(0.1834)	(0.1809)	(0.2647)	(0.1798)	(0.1828)
Additional Controls (1)	No	Yes	Yes	No	Yes	Yes
Additional Controls (2)	No	No	Yes	No	No	Yes
Observations	528	457	436	380	331	321
Mean of dep. variable	0.1648	0.1488	0.1468	0.0974	0.0755	0.0779
R^2	0.1197	0.2505	0.2744	0.1299	0.2932	0.3003

Notes: All regressions use an LPM and include year fixed effects and regional fixed effects. PS_{it} is standardized for interpretation. Robust standard errors in parentheses, clustered by country. Additional Controls (1): prior onset of conflict or war, democracy, ethnic fractionalization and polarization, Former French Colony and Former British Colony, population size, mountainous terrain, and non-contiguous state. Additional Controls (2): GDP per capita and GDP growth. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

4.2 Robustness Checks

In this section, we run a series of robustness checks to test the baseline estimates' sensitivity. We perform robustness checks only for the internal conflict onset estimates. The relevant Tables referenced below are found in the appendix.

4.2.1 Estimation and Measurement

Logit Model: In our baseline, we followed the practice in the literature of estimating linear probability models (LPM) to explore the effect of price shocks and trust on internal conflict onset or ending.[15] To show that our results are not sensitive to model specification, we estimate the baseline results using a Logit model. Table A1 displays the estimated coefficients and average marginal effects (AMEs). For civil conflict onset, the AME of the interaction term is negative and statistically significant: it is slightly larger (-0.3367). On the other hand, the AME for civil war onset (-0.0845) is no longer statistically significant at conventional significance levels.

Fixed Effects: We also perform robustness checks testing the sensitivity of baseline estimates to inclusion of different fixed effects. Tables A2 and A3 display six separate regressions as regression without fixed effects (Column 1), including year fixed effects only (Column 2), region fixed effects only (Column 3), year and regional fixed effects (Column 4 - the baseline model), year, regional and regional time trend fixed effects (Column 5), and country and year fixed effects (Column 6). The exclusion of year (regional) fixed effects tests whether baseline estimates are sensitive to global (regional) trends that affect all countries in the sample similarly. The inclusion of regional time trends ($FE_t \times FE_r$) accounts for the regional trends that may affect trust, price shocks, and conflict. The inclusion of country fixed effects controls country-specific factors that may affect trust, price shocks, and conflict. All time-invariant country-specific measures, including trust, are eliminated by the inclusion of country fixed effects. In all specifications, we see that the interaction term remains negative, of similar size, and is statistically significant at 5% significance levels.

Price Maker Cutoffs: One may be concerned that countries may influence the global commodity prices when measuring price shocks because they are not price takers in the global market. For instance, shocks (such as conflict) to countries that produce a large share of a particular commodity's world output may significantly influence world prices. This may violate the exogeneity between price shocks and internal conflict. To address this potential concern, we follow Bazzi and Blattman (2014) by running robustness checks

[15] For example, Bazzi and Blattman (2014), Berman et al. (2017), and Nunn et al. (2018) suggest that the LPM provides a more flexible specification with the inclusion of fixed effects and time trends and simplifies the interpretation of estimated coefficients.

by omitting from a country's price shock commodities where they produce more than 20% and 5% of that commodity in the world market (baseline model comprises of a 10% cutoff). Table A4 displays the results. Extending the 10% cutoff to 20% confirms the main results for both civil conflict and war onset. The interaction term for both outcomes remains negative, similar to baseline estimates, and statistically significant. When using a 5% cutoff, estimated coefficients for the interaction term are still negative. However, estimates become marginally insignificant, with p-values of 0.15 and 0.14, respectively.

4.2.2 Endogeneity: Trust, Price Shocks and Conflict

A country's trust level may influence the national export shares used to construct price shocks. For instance, Nunn (2007) show that trust influences a country's trade pattern, thus changing the country's national export structure. To address this potential concern, we perform a robustness check by fixing the trading structure using national export shares for the year 1980 (the mid-point of our data) in our price shock measure. Table A5 displays the results. For civil conflict onset, the estimated coefficient for the interaction term (-0.0740) remains negative, statistically significant at a 5% level, and of similar size to baseline estimates. However, for civil war onset, the estimated coefficient for the interaction term (-0.0058) remains negative, becomes statistically insignificant, and decreases in size compared to the baseline model.

Conflict Measures: Next, we use alternate measure of internal conflict common in the literature: civil conflict and war incidence (Berman et al., 2017; Dube and Vargas, 2013; Esteban et al., 2012; Miguel et al., 2004). Estimates in Table A6 suggest that the interaction term remains negative and statistically significant at the 1% significance level for both civil conflict and civil war incidence. The estimates suggest that after a one standard deviation increase in extractive commodity prices, the difference in the probability of civil conflict and war incidence between two countries with generalized trust levels one standard deviation apart is now 6.4% and 6.2%, respectively.

Price Shock Measures: Next, we use a simple instead of a geometric weighted average to calculate the price shock measure. The results are shown in Table A7. Estimated coefficients for the interaction term suggest baseline estimates are not sensitive to using a simple weighted average for either civil conflict onset of civil war onset.

Trust Measures: The baseline estimates use survey data across both World Value Survey and Barometer Surveys for each country. As a robustness check, we construct an average measure of generalized trust using only the World Value Surveys from 1981 to 2014, the most widely used source (Nunn et al., 2018). Columns 2 of Tables A8 and A9 show the results. The estimates for the interaction term remain robust for both civil conflict onset and civil war onset. Next, we consider trust in the government as an alter-

nate measure of trust. Columns 5 of Tables A8 and A9 show the results. Although the interaction term's sign remains negative under both outcomes, the estimated coefficient becomes smaller in size and statistically insignificant. These results suggest that generalized trust, instead of trust in the government, is the moderating factor between price shocks and conflict.

4.2.3 Additional Controls

Cultural Controls: We also test the sensitivity of baseline estimates to additional controls related to a country's culture. Specifically, we include a time-invariant measure of a country's religious fractionalization from Fearon and Laitin (2003) to the baseline regression. Column 2 of Tables A10 and A11 show the results. Estimated coefficients for the interaction term remain robust for both civil conflict onset and civil war onset.

Next, we add two variables (separately) measuring a country's ethnic dominance from Fearon and Laitin (2003) to the baseline regression. These two cultural variables measure the country's share of the largest and second-largest ethnic group. Columns 3 and 4 of Tables A10 and A11 show the results. Estimates for the interaction term remain robust to adding these two cultural variables to the model separately, for both civil conflict onset and civil war onset. Furthermore, results remain robust to the inclusion of all three variables together (Column 5 of Table A10) and civil war onset (Column 5 of Table A11).

We also test the sensitivity of baseline estimates to the measures of ethnic fractionalization and polarization by excluding them, seperately and together, in the baseline model. This helps us understand how the mediating effect of generalized trust on price shocks operates through these two variables. This is important as a lack of trust has been commonly linked with ethnic fractionalization and cleavages (Rohner et al., 2013a; Guiso et al., 2006). Table A12 shows the results when civil conflict onset is the outcome, and Table A13 shows results for civil war onset. Both sets of results suggest baseline estimates of the interaction term are robust to excluding ethnic fractionalization, polarization, and both cultural variables. The interaction term remains of negative sign, similar size, and statistical significance.

Political and Institutional Controls: In the baseline model, following the conflict literature we control for a country's level of institutionalized democracy from the Polity Project (Marshall and Gurr, 2020). The inclusion of this democracy variable is one way to control for the potential endogeneity of trust in a country's political institutions. To test the sensitivity of baseline estimates to institutional variables, we consider an indicator for institutionalized autocracy from the Polity Project.[16] Table A14 shows the

[16]This measure is also based on various institutional and political indicators, differing from the democracy indicator by also basing its index score on how a country regulates the expression of political

results. For both civil conflict onset and civil war onset, the interaction term remains robust to inclusion of this control. We also estimate our baseline regression by adding, separately and together, the individual components of institutionalized democracy and autocracy indicators. Table A15 shows the results when running this robustness check for civil conflict onset, and Table A16 shows the results for civil war onset. Results suggest that estimates for the interaction term remain robust for both outcomes and across all components of democracy and autocracy.

5 Conclusion

In this paper, we analyze an important channel through which culture interacts with economic shocks to affect internal conflict. We find that the level of generalized trust in the population moderates the effect of price shocks on internal conflict onset. After a rise in extractive commodity prices, developing countries with lower levels of generalized trust are more likely to experience an onset of internal conflict than developing countries with higher levels of generalized trust. This is the case for both civil conflict onset and civil war onset. These findings are robust to several different robustness checks. However, trust does not moderate price shocks on internal conflict ending (civil conflict or war-ending). These results suggest that factors other than trust may play a more prominent role in influencing a conflict's duration.

These findings add to the literature exploring the nexus between cultural factors and economic performance. We contribute to this literature by exploiting exogenous variation in economic outcomes. We differ from the literature by exploring the joint impact of trust and price shocks on internal conflict rather than studying the direct effect of trust on price shocks as the outcome. Our findings suggest that culture is not only crucial in fostering positive economic outcomes but is also vital in working with economic forces to foster other positive outcomes for society. Further, our results provide evidence that culture mediates the effect of economic shocks, moderating the risk that economic shocks pose to conflict. Countries with higher levels of trust respond more positively to the threats economic shocks pose to conflict, decreasing internal conflict risk. Countries with lower levels of trust respond more negatively to the threats economic shocks pose to conflict, increasing the risk of internal conflict.

preferences by political organizations, parties, and other groups (Marshall and Gurr, 2020).

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Culture, Economic Shocks and Conflict: Does trust moderate the effect of price shocks on conflict?

Online Appendix [NOT FOR PUBLICATION]

A2 Source of Other Variables

Economic, Demographic and Geographic:

GDP per capita: GDP per capita is equal to the gross domestic product divided by midyear population. Data is in constant 2010 U.S. dollars.
Source: The World Bank (2020)

GDP growth (annual %): annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2010 U.S. dollars.
Source: The World Bank (2020)

Population: midyear estimates for the number of residents regardless of legal status or citizenship.
Source: The World Bank (2020)

Mountainous terrain: Estimated proportion of the country comprised of mountainous terrain. Represents how rugged and rough the terrain of a country is.
Source: Fearon and Laitin (2003)

Non-contiguous state: indicator variable for whether a country is a non-contiguous state (1) or not (0).
Source: Fearon and Laitin (2003)

Cultural:

Ethnic fractionalisation: index of ethno-linguistic fractionalisation, measuring the probability that two randomly drawn individuals in a country are drawn from different ethnolinguistic groups.
Source: Fearon and Laitin (2003)

Ethnic dominance by largest ethnic group: a measure of the share of the population belonging to the largest ethnic group.
Source: Fearon and Laitin (2003)

Ethnic dominance by second largest ethnic group: a measure of the share of the population belonging to the second largest ethnic group.
Source: Fearon and Laitin (2003)

Ethnic polarisation: index of ethno-linguistic polarisation, emphasising the significance of group identification (proxied by group size) and intergroup distance in influencing conflicts.
Source: (Bazzi and Blattman, 2014; Esteban et al., 2012; Esteban and Ray, 2011)

Religious fractionalisation: analogous to ethnic fractionalisation measure. Measures the probability that two randomly drawn individuals in a country are drawn from different religious groups.
Source: Fearon and Laitin (2003)

Historical:

Former British Colony (FBC): indicator variable for whether a country is a former British colony (1), or not (0).
Source: Fearon and Laitin (2003)

Former French Colony (FFC): indicator variable for whether a country is a former French colony (1) or not (0).
Source: Fearon and Laitin (2003)

Political and Institutional:

Democracy (institutionalised democracy): democracy index consisting of an additive eleven-point scale (0-10). A higher score indicates a more democratic country.

Source: Polity5: Political regime characteristics and transitions, 1800-2018. Marshall and Gurr (2020)
Autocracy (institutionalised autocracy): autocracy index consisting of an additive eleven-point scale (0-10). A higher score indicates a more autocratic country.
Source: Polity5: Political regime characteristics and transitions, 1800-2018. Marshall and Gurr (2020)
Competitiveness of Executive Recruitment: the extent to which prevailing modes of advancement give subordinates equal opportunities to become superordinates, whether by hereditary succession, designation, or competitive election.
Source: Polity5: Political regime characteristics and transitions, 1800-2018. Marshall and Gurr (2020)
Openness of Executive Recruitment: the extent to which the politically active population have an opportunity to attain the position of chief executive through a regularised process.
Source: Polity5: Political regime characteristics and transitions, 1800-2018. Marshall and Gurr (2020)
Constraints on Chief Executive: the extent of institutionalised constraints on the decision making powers of chief executives, whether individuals or collectivities.
Source: Polity5: Political regime characteristics and transitions, 1800-2018. Marshall and Gurr (2020)
Competitiveness of Participation: the extent to which alternative preferences for policy and leadership can be pursued in the political arena.
Source: Polity5: Political regime characteristics and transitions, 1800-2018. Marshall and Gurr (2020)
Regulation of Participation: the extent to which there are binding rules on when, whether, and how political preferences are expressed by political organisations, parties and other groups.
Source: Polity5: Political regime characteristics and transitions, 1800-2018. Marshall and Gurr (2020)

A3 Robustness

A3.1 Logit Model

Table A1: Model Specification - LPM and Logit Model

	Dependent variable:					
	Civil Conflict Onset			Civil War Onset		
	LPM	Logit	Logit AME	LPM	Logit	Logit AME
	(1)	(2)	(3)	(1)	(2)	(3)
Gen. Trust$_i$	-0.0332	-0.4493	-0.0372	-0.0270	2.9754	0.2358
	(0.0708)	(3.9161)	(0.3250)	(0.0382)	(6.4834)	(0.5076)
PS$_{it}$	0.0155**	0.7013	0.0581	0.0174**	-0.1790	-0.0142
	(0.0071)	(0.4270)	(0.0356)	(0.0080)	(0.7855)	(0.0620)
Gen. Trust$_i$ × PS$_{it}$	-0.0910***	-4.0612*	-0.3367*	-0.0939**	-1.0668	-0.0845
	(0.0309)	(2.1210)	(0.1798)	(0.0368)	(2.2953)	(0.1838)
Observations	2175	687	687	2301	260	260
Mean of dep. variable	0.0354	0.1106	0.1106	0.0148	0.1269	0.1269
R^2	0.1006	0.1813	0.1813	0.1085	0.3060	0.3060

Notes: All regressions include year and regional fixed effects. Estimates produced by the LPM present the baseline estimates. Robust standard errors in parentheses for parameters estimated by LPM, clustered by country. Standard errors in parentheses for parameters estimated by logit model, clustered by country. AME stands for average marginal effects estimated by the logit model. Pseudo R^2 presented as R^2 in table for logit model. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A3.2 Fixed Effects

Table A2: Fixed Effects - Civil Conflict Onset

	Dependent variable: Indicator for Civil Conflict Onset					
	(1)	(2)	(3)	(4)	(5)	(6)
Gen. Trust$_i$	-0.0412	-0.0169	-0.0363	-0.0332	-0.0226	
	(0.0606)	(0.0618)	(0.0750)	(0.0708)	(0.0760)	
PS$_{it}$	0.0163**	0.0146**	0.0169**	0.0155**	0.0188***	0.0151**
	(0.0079)	(0.0071)	(0.0080)	(0.0071)	(0.0067)	(0.0073)
Gen. Trust$_i$ × PS$_{it}$	-0.0942***	-0.0885***	-0.0960***	-0.0910***	-0.1056***	-0.0861***
	(0.0354)	(0.0311)	(0.0357)	(0.0309)	(0.0260)	(0.0313)
Year fixed effects	No	Yes	No	Yes	Yes	Yes
Region fixed effects	No	No	Yes	Yes	Yes	No
Regional time trends	No	No	No	No	Yes	No
Country fixed effects	No	No	No	No	No	Yes
Observations	2175	2175	2175	2175	2175	2175
Mean of dep. variable	0.0354	0.0354	0.0354	0.0354	0.0354	0.0354
R^2	0.0637	0.0951	0.0681	0.1006	0.1757	0.1844

Notes: All regressions use an LPM. Column (4) presents the baseline estimates. PS_{it} is standardised for interpretation. Robust standard errors in parentheses, clustered by country. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A3: Fixed Effects - Civil War Onset

	Dependent variable: Indicator for Civil War Onset					
	(1)	(2)	(3)	(4)	(5)	(6)
Gen. Trust$_i$	-0.0296	-0.0207	-0.0314	-0.0270	-0.0240	
	(0.0364)	(0.0351)	(0.0408)	(0.0382)	(0.0384)	
PS$_{it}$	0.0170**	0.0177**	0.0167**	0.0174**	0.0208***	0.0176**
	(0.0080)	(0.0079)	(0.0081)	(0.0080)	(0.0077)	(0.0081)
Gen. Trust$_i$ × PS$_{it}$	-0.0940**	-0.0950**	-0.0927**	-0.0939**	-0.1039***	-0.0923**
	(0.0375)	(0.0363)	(0.0382)	(0.0368)	(0.0348)	(0.0373)
Year fixed effects	No	Yes	No	Yes	Yes	Yes
Region fixed effects	No	No	Yes	Yes	Yes	No
Regional time trends	No	No	No	No	Yes	No
Country fixed effects	No	No	No	No	No	Yes
Observations	2301	2301	2301	2301	2301	2301
Mean of dep. variable	0.0148	0.0148	0.0148	0.0148	0.0148	0.0148
R^2	0.0897	0.1040	0.0943	0.1085	0.1802	0.2045

Notes: All regressions use an LPM. Column (4) presents the baseline estimates. PS_{it} is standardised for interpretation. Robust standard errors in parentheses, clustered by country. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A3.3 Price Maker Cutoffs

Table A4: Price Makers

	Dependent variable:					
	Civil Conflict Onset			Civil War Onset		
	Base Model	20% cutoff	5% cutoff	Base Model	20% cutoff	5% cutoff
	(1)	(2)	(3)	(1)	(2)	(3)
Gen. Trust$_i$	-0.0332	-0.0339	-0.0385	-0.0270	-0.0277	-0.0335
	(0.0708)	(0.0709)	(0.0705)	(0.0382)	(0.0381)	(0.0369)
PS$_{it}$	0.0155**	0.0141***	0.0034	0.0174**	0.0123***	0.0015
	(0.0071)	(0.0046)	(0.0028)	(0.0080)	(0.0042)	(0.0017)
Gen. Trust$_i$ × PS$_{it}$	-0.0910***	-0.0966***	-0.0186	-0.0939**	-0.0902***	-0.0116
	(0.0309)	(0.0130)	(0.0128)	(0.0368)	(0.0160)	(0.0077)
Observations	2175	2175	2172	2301	2301	2298
Mean of dep. variable	0.0354	0.0354	0.0345	0.0148	0.0148	0.0139
R^2	0.1006	0.1025	0.0936	0.1085	0.1127	0.0939

Notes: All regressions include year and regional fixed effects. Robust standard errors in parentheses, clustered by country. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A3.4 Endogeneity: Trust, Price Shocks and Conflict

Table A5: Endogeneity of Price Shocks to Trust

	Dependent variable:			
	Civil Conflict Onset		Civil War Onset	
	Base Model	Fixed Export Structure	Base Model	Fixed Export Structure
	(1)	(2)	(1)	(2)
Gen. Trust$_i$	-0.0332	0.0203	-0.0270	0.0180
	(0.0708)	(0.0973)	(0.0382)	(0.0504)
PS$_{it}$	0.0155**	0.0065	0.0174**	0.0003
	(0.0071)	(0.0040)	(0.0080)	(0.0015)
Gen. Trust$_i$ × PS$_{it}$	-0.0910***	-0.0740**	-0.0939**	-0.0058
	(0.0309)	(0.0293)	(0.0368)	(0.0101)
Observations	2175	1650	2301	1755
Mean of dep. variable	0.0354	0.0327	0.0148	0.0137
R^2	0.1006	0.0975	0.1085	0.0911

Notes: All regressions include year and regional fixed effects. Robust standard errors in parentheses, clustered by country. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A3.5 Conflict Measures

Table A6: Alternative Conflict Measures

	Dependent variable:			
	Civil Conflict Onset	Civil Conflict Incidence	Civil War Onset	Civil War Incidence
	(1)	(2)	(1)	(2)
Gen. Trust$_i$	-0.0332	-0.0341	-0.0270	-0.0389
	(0.0708)	(0.0901)	(0.0382)	(0.0456)
PS$_{it}$	0.0155**	0.0215***	0.0174**	0.0125***
	(0.0071)	(0.0080)	(0.0080)	(0.0047)
Gen. Trust$_i$ × PS$_{it}$	-0.0910***	-0.0975***	-0.0939**	-0.0687***
	(0.0309)	(0.0204)	(0.0368)	(0.0155)
Observations	2175	2632	2301	2632
Mean of dep. variable	0.0354	0.1771	0.0148	0.1292
R^2	0.1006	0.6662	0.1085	0.8147

Notes: All regressions include year and regional fixed effects. Robust standard errors in parentheses, clustered by country. Regressions with conflict incidence as the outcome include lagged conflict incidence (by one year) as an additional control to replace lagged conflict onset.
Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A3.6 Price Shock Measures

Table A7: Alternative Price Shock Measures

	Dependent variable:			
	Civil Conflict Onset		Civil War Onset	
	Base Model	Simple Weighted Average	Base Model	Simple Weighted Average
	(1)	(2)	(1)	(2)
Gen. Trust$_i$	-0.0332	-0.0332	-0.0270	-0.0270
	(0.0708)	(0.0708)	(0.0382)	(0.0382)
PS$_{it}$	0.0155**	0.0155**	0.0174**	0.0174**
	(0.0071)	(0.0071)	(0.0080)	(0.0080)
Gen. Trust$_i$ × PS$_{it}$	-0.0910***	-0.0910***	-0.0939**	-0.0939**
	(0.0309)	(0.0309)	(0.0368)	(0.0368)
Observations	2175	2175	2301	2301
Mean of dep. variable	0.0354	0.0354	0.0148	0.0148
R^2	0.1006	0.1006	0.1085	0.1085

Notes: All regressions include year and regional fixed effects. Robust standard errors in parentheses, clustered by country. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A3.7 Trust Measures

Table A8: Alternative Trust Measures: Civil Conflict Onset

	Dependent variable: Indicator for Civil Conflict Onset				
	Base Model	WVS (1957-2014)	All Surveys (1957-2007)	WVS (1957-2007)	Govt. Trust$_i$
	(1)	(2)	(3)	(4)	(5)
Trust$_i$	-0.0332	-0.1085	-0.1067*	-0.1606**	0.1079
	(0.0708)	(0.0748)	(0.0576)	(0.0776)	(0.0958)
PS$_{it}$	0.0155**	0.0104	0.0070	0.0025	0.0007
	(0.0071)	(0.0113)	(0.0074)	(0.0110)	(0.0158)
Trust$_i$ × PS$_{it}$	-0.0910***	-0.0741*	-0.0866***	-0.0712***	-0.0026
	(0.0309)	(0.0402)	(0.0178)	(0.0259)	(0.0250)
Observations	2175	1378	1747	1208	1631
Mean of dep. variable	0.0354	0.0348	0.0349	0.0389	0.0399
r^2	0.1006	0.1243	0.1154	0.1376	0.1173

Notes: All regressions include year and regional fixed effects. Robust standard errors in parentheses, clustered by country. WVS stands for World Value Survey. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A9: Alternative Trust Measures: Civil War Onset

	Dependent variable: Indicator for Civil War Onset				
	Base Model	WVS (1957-2014)	All Surveys (1957-2007)	WVS (1957-2007)	Govt. Trust$_i$
	(1)	(2)	(3)	(4)	(5)
Trust$_i$	-0.0270	-0.1089**	-0.0783**	-0.1119**	0.0672
	(0.0382)	(0.0483)	(0.0354)	(0.0495)	(0.0601)
PS$_{it}$	0.0174**	0.0153	0.0097**	0.0083	0.0001
	(0.0080)	(0.0107)	(0.0047)	(0.0073)	(0.0069)
Trust$_i$ × PS$_{it}$	-0.0939**	-0.0861**	-0.0912***	-0.0865***	-0.0002
	(0.0368)	(0.0417)	(0.0108)	(0.0165)	(0.0101)
Observations	2301	1476	1856	1304	1749
Mean of dep. variable	0.0148	0.0136	0.0145	0.0153	0.0177
R^2	0.1085	0.1375	0.1266	0.1539	0.1078

Notes: All regressions include year and regional fixed effects. WVS stands for World Value Survey. Robust standard errors in parentheses, clustered by country. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A3.8 Cultural Controls

Table A10: Cultural Controls (1): Civil Conflict Onset

	Dependent variable: Indicator for Civil Conflict Onset				
	Base Model	Relig. Fract.	Ethnic Dom. (1)	Ethnic Dom. (2)	All
	(1)	(2)	(3)	(4)	(5)
Gen. Trust$_i$	-0.0332	-0.0508	-0.0350	-0.0268	-0.0461
	(0.0708)	(0.0688)	(0.0706)	(0.0716)	(0.0674)
PS$_{it}$	0.0155**	0.0156**	0.0156**	0.0153**	0.0157**
	(0.0071)	(0.0071)	(0.0072)	(0.0072)	(0.0073)
Gen. Trust$_i$ × PS$_{it}$	-0.0910***	-0.0916***	-0.0913***	-0.0903***	-0.0915***
	(0.0309)	(0.0311)	(0.0309)	(0.0311)	(0.0314)
Religious Fract.		-0.0782			-0.0784
		(0.0531)			(0.0474)
Ethnic Dominance (1)			0.0829		0.7570**
			(0.2225)		(0.3589)
Ethnic Dominance (2)				0.1144	0.3711**
				(0.0890)	(0.1542)
Observations	2175	2175	2175	2175	2175
Mean of dep. variable	0.0354	0.0354	0.0354	0.0354	0.0354
R^2	0.1006	0.1030	0.1007	0.1017	0.1078

Notes: All regressions include year and regional fixed effects. Robust standard errors in parentheses, clustered by country. Estimates for religious fractionalisation, ethnic dominance (1) and ethnic dominance (2) are shown since these variables are relevant to the robustness check. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A11: Cultural Controls (1): Civil War Onset

	Dependent variable: Indicator for Civil War Onset				
	Base Model	Relig. Fract.	Ethnic Dom. (1)	Ethnic Dom. (2)	All
	(1)	(2)	(3)	(4)	(5)
Gen. Trust$_i$	-0.0270	-0.0342	-0.0351	-0.0237	-0.0358
	(0.0382)	(0.0382)	(0.0406)	(0.0372)	(0.0403)
PS$_{it}$	0.0174**	0.0174**	0.0177**	0.0173**	0.0181**
	(0.0080)	(0.0080)	(0.0080)	(0.0080)	(0.0081)
Gen. Trust$_i$ × PS$_{it}$	-0.0939**	-0.0941**	-0.0947**	-0.0936**	-0.0952**
	(0.0368)	(0.0369)	(0.0368)	(0.0369)	(0.0369)
Religious Fract.		-0.0324			-0.0327
		(0.0310)			(0.0226)
Ethnic Dominance (1)			0.2473*		1.0775***
			(0.1352)		(0.3189)
Ethnic Dominance (2)				0.0396	0.4054***
				(0.0454)	(0.1262)
Observations	2301	2301	2301	2301	2301
Mean of dep. variable	0.0148	0.0148	0.0148	0.0148	0.0148
R^2	0.1085	0.1094	0.1107	0.1088	0.1228

Notes: All regressions include year and regional fixed effects. Robust standard errors in parentheses, clustered by country. Estimates for religious fractionalisation, ethnic dominance (1) and ethnic dominance (2) are shown since these variables are relevant to the robustness check. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A12: Cultural Controls (2): Civil Conflict Onset

	Dependent variable: Indicator for Civil Conflict Onset			
	Base Model	No Ethnic Fract.	No Ethnic Polar.	No Ethnic Fract. or Polar.
	(1)	(2)	(3)	(4)
Gen. Trust$_i$	-0.0332	-0.0235	-0.0280	-0.0273
	(0.0708)	(0.0737)	(0.0639)	(0.0672)
PS$_{it}$	0.0155**	0.0156**	0.0155**	0.0161**
	(0.0071)	(0.0070)	(0.0073)	(0.0072)
Gen. Trust$_i$ × PS$_{it}$	-0.0910***	-0.0912***	-0.0898***	-0.0915***
	(0.0309)	(0.0306)	(0.0325)	(0.0320)
Ethnic Fract.	0.1225		0.1774**	
	(0.1156)		(0.0873)	
Ethnic Fract.^{2}	-0.1167		-0.1613*	
	(0.1154)		(0.0954)	
Ethnic Polar.	0.0196	0.0406*		
	(0.0302)	(0.0224)		
Observations	2175	2175	2341	2341
Mean of dep. variable	0.0354	0.0354	0.0346	0.0346
R^2	0.1006	0.0998	0.0953	0.0923

Notes: All regressions include year and regional fixed effects. Estimates for ethnic fractionalisation and ethnic polarisation are shown since these variables are relevant to the robustness check. Robust standard errors in parentheses, clustered by country. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A13: Cultural Controls (2): Civil War Onset

	Dependent variable: Indicator for Civil War Onset			
	Base Model	No Ethnic Fract.	No Ethnic Polar.	No Ethnic Fract. or Polar.
	(1)	(2)	(3)	(4)
Gen. Trust$_i$	-0.0270	-0.0224	-0.0015	-0.0005
	(0.0382)	(0.0383)	(0.0375)	(0.0374)
PS$_{it}$	0.0174**	0.0176**	0.0171**	0.0174**
	(0.0080)	(0.0079)	(0.0079)	(0.0079)
Gen. Trust$_i$ × PS$_{it}$	-0.0939**	-0.0947**	-0.0925**	-0.0936**
	(0.0368)	(0.0366)	(0.0373)	(0.0371)
Ethnic Fract.	0.1323*		0.1043**	
	(0.0683)		(0.0457)	
Ethnic Fract.^{2}	-0.1125		-0.0962*	
	(0.0735)		(0.0569)	
Ethnic Polar.	-0.0148	0.0102		
	(0.0183)	(0.0133)		
Observations	2301	2301	2469	2469
Mean of dep. variable	0.0148	0.0148	0.0146	0.0146
R^2	0.1085	0.1062	0.1037	0.1013

Notes: All regressions include year and regional fixed effects. Robust standard errors in parentheses, clustered by country. Estimates for ethnic fractionalisation and ethnic polarisation are shown since these variables are relevant to the robustness check. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A3.9 Political and Institutional Controls

Table A14: Political and Institutional Controls (1)

	Dependent variable:					
	Civil Conflict Onset			Civil War Onset		
	(1)	(2)	(3)	(1)	(2)	(3)
Gen. Trust$_i$	-0.0332	-0.0244	-0.0275	-0.0270	-0.0242	-0.0252
	(0.0708)	(0.0683)	(0.0671)	(0.0382)	(0.0376)	(0.0376)
PS$_{it}$	0.0155**	0.0152**	0.0148**	0.0174**	0.0174**	0.0172**
	(0.0071)	(0.0071)	(0.0070)	(0.0080)	(0.0079)	(0.0079)
Gen. Trust$_i$ × PS$_{it}$	-0.0910***	-0.0897***	-0.0886***	-0.0939**	-0.0938**	-0.0931**
	(0.0309)	(0.0305)	(0.0302)	(0.0368)	(0.0366)	(0.0364)
Democracy (lag)	0.0002		-0.0037	-0.0006		-0.0016
	(0.0017)		(0.0029)	(0.0009)		(0.0017)
Autocracy (lag)		-0.0022	-0.0057		0.0001	-0.0014
		(0.0021)	(0.0036)		(0.0011)	(0.0020)
Observations	2175	2175	2175	2301	2301	2301
Mean of dep. variable	0.0354	0.0354	0.0354	0.0148	0.0148	0.0148
R^2	0.1006	0.1014	0.1025	0.1085	0.1082	0.1087

Notes: All regressions include year and regional fixed effects. Robust standard errors in parentheses, clustered by country. Estimates for democracy and autocracy are shown since these variables are relevant to the robustness check. Democracy and autocracy variables are lagged by one year. Column (2) presents estimates altering the baseline model by replacing the democracy variable with the autocracy variable. Column (3) presents estimates including both the democracy and autocracy variables. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A15: Political and Institutional Controls (2): Civil Conflict Onset

	Dependent variable: Indicator for Civil Conflict Onset						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Gen. Trust$_i$	-0.0332	-0.0328	-0.0330	-0.0328	-0.0326	-0.0229	-0.0265
	(0.0708)	(0.0708)	(0.0692)	(0.0685)	(0.0695)	(0.0682)	(0.0694)
PS$_{it}$	0.0155**	0.0155**	0.0155**	0.0155**	0.0156**	0.0154**	0.0153**
	(0.0071)	(0.0071)	(0.0071)	(0.0071)	(0.0071)	(0.0071)	(0.0071)
Gen. Trust$_i$ × PS$_{it}$	-0.0910***	-0.0911***	-0.0913***	-0.0909***	-0.0912***	-0.0904***	-0.0901***
	(0.0309)	(0.0309)	(0.0310)	(0.0309)	(0.0309)	(0.0309)	(0.0308)
Comp. of Exec Rec.		0.0009					-0.0049
		(0.0058)					(0.0131)
Openness of Exec. Rec.			0.0006				0.0005
			(0.0041)				(0.0063)
Constraints on Chief Exec.				0.0013			0.0020
				(0.0030)			(0.0060)
Comp. of Participation					0.0010		0.0010
					(0.0057)		(0.0109)
Regulation of Participation						-0.0067	-0.0068
						(0.0058)	(0.0067)
Observations	2175	2175	2175	2175	2175	2175	2175
Mean of dep. variable	0.0354	0.0354	0.0354	0.0354	0.0354	0.0354	0.0354
R^2	0.1006	0.1006	0.1006	0.1007	0.1006	0.1015	0.1017

Notes: All regressions include year and regional fixed effects. Robust standard errors in parentheses, clustered by country. Each institutionalised variable is lagged by one year to mitigate endogeneity concerns with civil conflict onset in the proceeding year and to remain consistent with the conflict literature. Institutional variables (in descending order) include: competitiveness of executive recruitment, openness of executive recruitment, constraints on chief executive, competitiveness of participation, regulation of participation. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A16: Political and Institutional Controls (2): Civil War Onset

	Dependent variable: Indicator for Civil War Onset						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Gen. Trust$_i$	-0.0270	-0.0314	-0.0345	-0.0263	-0.0186	-0.0320	-0.0239
	(0.0382)	(0.0382)	(0.0362)	(0.0379)	(0.0378)	(0.0393)	(0.0401)
PS$_{it}$	0.0174**	0.0173**	0.0173**	0.0174**	0.0175**	0.0175**	0.0178**
	(0.0080)	(0.0079)	(0.0078)	(0.0080)	(0.0079)	(0.0079)	(0.0077)
Gen. Trust$_i$ × PS$_{it}$	-0.0939**	-0.0936**	-0.0931**	-0.0941**	-0.0939**	-0.0943**	-0.0947**
	(0.0368)	(0.0367)	(0.0362)	(0.0369)	(0.0365)	(0.0367)	(0.0357)
Comp. of Exec Rec.		-0.0042					0.0007
		(0.0031)					(0.0069)
Openness of Exec. Rec.			-0.0041*				-0.0036
			(0.0021)				(0.0029)
Constraints on Chief Exec.				-0.0021			-0.0035
				(0.0017)			(0.0035)
Comp. of Participation					0.0024		0.0077*
					(0.0024)		(0.0045)
Regulation of Participation						0.0044	0.0019
						(0.0032)	(0.0031)
Observations	2301	2301	2301	2301	2301	2301	2301
Mean of dep. variable	0.0148	0.0148	0.0148	0.0148	0.0148	0.0148	0.0148
R^2	0.1085	0.1092	0.1106	0.1091	0.1086	0.1092	0.1134

Notes: All regressions include year and regional fixed effects. Robust standard errors in parentheses, clustered by country. Each institutionalised variable is lagged by one year to mitigate endogeneity concerns with civil war onset in the proceeding year and to remain consistent with the conflict literature. Institutional variables (in descending order) include: competitiveness of executive recruitment, openness of executive recruitment, constraints on chief executive, competitiveness of participation, regulation of participation. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.